AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A needle valve for filling a mold with an organic material in the liquid state, said valve including:

- a body (25) in which is formed a flow passage (30) for the material to be molded having an inlet opening (31), an outlet opening (32) and, between said two openings, a constriction (33) bounded on its upstream side by a change of section (34) forming a seat, and

- a needle (40) mounted in the body (25) so that it is mobile between a fully open position and a closure position closing the flow passage (30) with, between these two extreme positions, a range of intermediate positions of variable opening, said needle having a closure shoulder (43) adapted to bear in the closure position against the seat formed by the change of section (34) in the flow passage (30) in the body (25), so as to shut off the flow passage (30) and, projecting from said closure shoulder, an opening adjustment tip (42) that has a nonuniform section and is engaged in the constriction (33) to define a certain flow section therewith in each intermediate position of the needle (40),

said opening adjustment tip (42) being distinct from said closure shoulder (43) and said closure shoulder (43) being shaped so as to contact said seat and close said valve about a quasilinear circular contact.

2. (original) A valve according to claim 1, wherein the closure shoulder (43) of the needle (40) is rounded.

3. (previously presented) A valve according to claim 1, in which the change of section (34) of the flow passage (30) is conical.

4. (previously presented) A valve according to claim 3, wherein the conical change of section (34) has an angle at the apex from 30 to 60°.

5. (previously presented) A valve according to claim 1, wherein the tip (40) has a rounded free end (46).

6. (previously presented) A valve according to claim 5, wherein the free end (46) of the tip is spherical.

7. (previously presented) A valve according to claim 1, wherein, in the maximum open position, the free end (46) of the tip (42) is at least partially engaged in the constriction (33) of the flow passage (30).

8. (previously presented) A valve according to claim 1, wherein the tip (40) has at least one conical portion.

9. (previously presented) A valve according to claim 8, wherein the tip has a plurality of portions of different shape with no first order discontinuity between the portions.

10. (previously presented) A valve according to claim 9, wherein the tip has at least one cylindrical portion in addition to its conical portion.

11. (previously presented) A valve according to claim 1, in which at least the portion of the external surface of the needle (40) that is caused to be immersed in the flow passage (30) consists of PTFE.

12. (previously presented) A valve according to claim 1, wherein the inside surface of the flow passage (30) of the body (25) consists of PTFE.

13. (previously presented) A valve according to claim 1, wherein the needle (40) has an axis (11) of rotational symmetry and is mounted in the body (25) to slide along its axis, which coincides with the axis of the constriction (33) in the flow passage (30) of the body (25).

14. (previously presented) A valve according to claim 1, wherein an ethylene-propylene-diene elastomer O-ring seal (44) is mounted between the body (25) and the needle (40).

15. (previously presented) A valve according to claim 1, wherein the constriction (33) in the flow passage (30) is extended with a constant shape and size of section as far as the outlet orifice (32).

16. (previously presented) A valve according to claim 1, wherein the flow passage (30) is L-shaped, with a first branch centered on the flow axis (11) and whose free end constitutes the

outlet opening (32) and a second branch centered on an axis (35) perpendicular to the flow axis (11).

17. (previously presented) A valve according to claim 16, wherein the first branch of the passage (30) is staggered, with a large base (36) and, at the end, the constriction (33) followed by the outlet opening (32), the base (36) and the constriction (33) being cylindrical and the change of section (34) merging with the constriction (33) and the base (36) via rounded connecting areas.

18. (withdrawn) A method of molding an organic material optical component in an appropriate molding cavity (6), the method including a sequence of filling the molding cavity with the organic material in the liquid state and a step of hardening the material in said molding cavity, which method is characterized in that the molding cavity (6) filling sequence is effected by means of a valve (15) according to claim 1.

19. (withdrawn) A method according to claim 18 wherein the position of the needle (40) is controlled.

20. (withdrawn) The method according to claim 18 wherein the speed of the needle (60) is controlled.

21. (withdrawn) A method according to claim 18 wherein the needle is operated at different speeds during opening and during closing.

22. (withdrawn) A method according to claim 18 wherein the needle is moved during closing at a speed higher than that at

which it is moved during opening.

23. (withdrawn) A method according to claim 18, wherein the filling sequence includes the following steps:

- rise in flowrate (A) from a zero flowrate to a nominal flowrate (Dn) greater than 40 g/min,

- full flowrate filling (B), with the nominal flowrate (Dn) maintained, and

- flowrate reduction (C) from the nominal flowrate (Dn) to the zero flowrate,

which method is characterized in that the rise in flowrate step (A) is divided into at least two phases:

- a low flowrate start of filling phase (A1), which continues until the mold is filled with the material to a height of at least 2 mm at the deepest point of the mold, the flowrate increasing during this phase to a maximum start of filling flowrate (Dd) less than 20 g/min, and then

- a main rise in flowrate phase (A2) to increase from the start of filling flowrate (Dd) to the nominal flowrate (Dn).

24. (withdrawn) A method according to claim 18, wherein the material is introduced into the molding cavity (6) via an orifice (9) in the lower portion of said cavity.

25. (withdrawn) A method according to claim 18, wherein polymerization of the material is initiated immediately after complete filling of the molding cavity.